SANTA CRUZ BIOTECHNOLOGY, INC.

Claspin (B-6): sc-376773



BACKGROUND

Claspin, an essential replication checkpoint control protein, regulates the interaction between Chk1 and the upstream regulatory kinase ATR. Chk1 mediates cell cycle arrest in response to a block in DNA replication or to DNA damage by ultraviolet radiation. Claspin becomes phosphorylated within its Chk1 binding domain in response to replication stress. This domain consists of two highly conserved repeats of approximately ten amino acids. Each repeat contains a serine residue (Serine 864 and Serine 895) that undergoes phosphorylation. Binding of Chk1 and Claspin promotes the interaction between Chk1 and ATR and Rad9, thereby arresting the cell cycle. Claspin is most abundant within cells at the S/G₂ phase.

CHROMOSOMAL LOCATION

Genetic locus: CLSPN (human) mapping to 1p34.3; Clspn (mouse) mapping to 4 D2.2.

SOURCE

Claspin (B-6) is a mouse monoclonal antibody raised against amino acids 1033-1332 mapping at the C-terminus of Claspin of human origin.

PRODUCT

Each vial contains 200 μg lgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Claspin (B-6) is available conjugated to agarose (sc-376773 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376773 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376773 PE), fluorescein (sc-376773 FITC), Alexa Fluor[®] 488 (sc-376773 AF488), Alexa Fluor[®] 546 (sc-376773 AF546), Alexa Fluor[®] 594 (sc-376773 AF594) or Alexa Fluor[®] 647 (sc-376773 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376773 AF680) or Alexa Fluor[®] 790 (sc-376773 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Claspin (B-6) is recommended for detection of Claspin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Claspin siRNA (h): sc-45412, Claspin siRNA (m): sc-45413, Claspin shRNA Plasmid (h): sc-45412-SH, Claspin shRNA Plasmid (m): sc-45413-SH, Claspin shRNA (h) Lentiviral Particles: sc-45412-V and Claspin shRNA (m) Lentiviral Particles: sc-45413-V.

Molecular Weight of Claspin: 180 kDa.

Positive Controls: Claspin (m): 293T Lysate: sc-125137.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA





Claspin (B-6): sc-376773. Western blot analysis of Claspin expression in non-transfected: sc-117752 (A) and mouse Claspin transfected: sc-125137 (B) 293T whole cell lysates. Claspin (B-6): sc-376773. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Adeyemi, R.O. and Pintel, D.J. 2014. The ATR signaling pathway is disabled during infection with the parvovirus minute virus of mice. J. Virol. 88: 10189-10199.
- Liu, R., et al. 2021. Therapeutic targeting of FOS in mutant TERT cancers through removing TERT suppression of apoptosis via regulating survivin and TRAIL-R2. Proc. Natl. Acad. Sci. USA 118: e2022779118.
- Guerra, B., et al. 2022. Essential role of CK2α for the interaction and stability of replication fork factors during DNA synthesis and activation of the S-phase checkpoint. Cell. Mol. Life Sci. 79: 339.
- 4. Zonderland, G., et al. 2022. The TRESLIN-MTBP complex couples completion of DNA replication with S/G₂ transition. Mol. Cell 82: 3350-3365.e7.
- Polasek-Sedlackova, H., et al. 2022. Solving the MCM paradox by visualizing the scaffold of CMG helicase at active replisomes. Nat. Commun. 13: 6090.
- Li, D., et al. 2022. An RNAi screen of RNA helicases identifies elF4A3 as a regulator of embryonic stem cell identity. Nucleic Acids Res. E-published.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.